

Appln. of: BEATTIE
Serial No.: 10/647,304
Filed: August 26, 2003

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A tie rod jam nut, comprising:
an elongated tubular body having a first end and a second end, the body having an axial internal bore constructed and arranged to receive a portion of an elongated tie rod;
a locking portion connected to the tubular body, the locking portion positioned at the first end of the tubular body and having a threaded bore constructed and arranged to threadingly engage an externally threaded portion of a connecting component threadingly engaged with the tie rod, the locking portion having an axially facing face portion constructed and arranged, upon rotation of the locking portion in a first direction about the threaded portion of the connecting component, to engage an opposed axially facing portion of the tie rod in a manner to create opposed axial forces between the locking portion and the tie rod, and in the externally threaded portion of the connecting component, so as to rotationally and axially lock the connecting component with respect to the tie rod and locking portion as the locking portion is rotated in a first direction about the threaded portion of the connecting component and, upon rotation of the locking portion in a direction opposite the first direction about the threaded portion of the connecting component, to disengage the same opposed axially facing portion of the tie rod to release the opposed axial forces between the locking portion and the tie rod, and in the externally threaded portion of the connecting component, so as to rotationally and axially unlock the connecting component with respect to the tie rod and locking portion as the locking portion is rotated in a direction opposite the first direction about the threaded portion of the connecting component;
an engagement portion connected to the tubular body and spaced distally from the locking portion toward the second end of the tubular body, the engagement portion constructed and arranged to be engaged and rotated so as to remotely rotate the locking portion between the locked and unlocked positions.
2. (Original) The tie rod jam nut as in claim 1, wherein the engagement portion is positioned at the second end of the tubular body.

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3. (Original) The tie rod jam nut as in claim 1, wherein the engagement portion is positioned proximal a second jam nut of the tie rod when the tie rod jam nut is assembled to the tie rod.

4. (Original) The tie rod jam nut as in claim 1, wherein the engagement portion is hexagonally shaped for engagement with a wrench.

5. (Original) The tie rod jam nut as in claim 1, wherein the face portion of the locking portion lies in a plane perpendicular to an axis of the elongated tubular body.

6. (Original) The tie rod jam nut as in claim 1, wherein the engagement portion is spaced away from the locking portion of the tubular body by at least 50% of a length of the tie rod.

7. (Original) The tie rod jam nut as in claim 6, wherein the engagement portion is spaced away from the locking portion of the tubular body by at least 70% of the length of the tie rod.

8. (Original) The tie rod jam nut as in claim 7, wherein the engagement portion is spaced away from the locking portion of the tubular body by between 70% and 95% of the length of the tie rod.

9. (Original) The tie rod jam nut as in claim 1, wherein the tubular body, the locking portion and the engagement portion are assembled together as a unitary assembly.

10. (Original) The tie rod jam nut as in claim 1, wherein the tubular body, the locking portion and the engagement portion are constructed in a unitary manner.

11. (Original) The tie rod jam nut as in claim 1 and further comprising the tie rod.

12. (Original) The tie rod jam nut as in claim 1, and further comprising markings positioned on an exterior of the tie rod jam nut for comparison to a graduated scale on the tie rod.

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13. (Original) The tie rod jam nut as in claim 1, and further comprising a seal for engaging between the second end of the tubular body and the tie rod.

14. (Currently Amended) A tie rod assembly, comprising:

an elongated tie rod having a first end and a second end, the first and second ends each end having an axially extended threaded bore constructed and arranged to threadingly receive first and second connecting components, respectively a connecting component, each of the first and second ends having an axially facing a jam nut engaging portion;

a first jam nut for engaging one of the jam nut engaging portions, comprising
an elongated tubular body having a first end and a second end, the body having an axial internal bore constructed and arranged to receive a portion of the elongated tie rod;

a locking portion connected to the tubular body, the locking portion positioned at the first end of the tubular body and having a threaded bore constructed and arranged to threadingly engage an externally threaded portion of one of the first and second connecting components threadingly engaged with the tie rod, the locking portion having an axially facing a face portion constructed and arranged, upon rotation of the locking portion in a first direction about the threaded portion of the one of the first and second connecting components, to engage an opposed one of the jam nut engaging portions of the tie rod in a manner to create opposed axial forces between the locking portion and the tie rod, and in the externally threaded portion of the one of the first and second connecting components. so as to rotationally and axially lock the one of the first and second connecting components with respect to the tie rod and locking portion as the locking portion is rotated in a first direction about the threaded portion of the connecting component and, upon rotation of the locking portion in a direction opposite the first direction about the threaded portion of the one of the first and second connecting components, to disengage the same opposed jam nut engaging portion of the tie rod to release the opposed axial forces between the locking portion and the tie rod, and in the externally threaded portion of the one of the first and second connecting components, so as to rotationally and axially unlock such the connecting component with respect to the tie rod and locking portion as the locking portion is rotated in a direction opposite the first direction about the threaded portion of the connecting component;

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an engagement portion connected to the tubular body and spaced distally from the locking portion toward the second end of the tubular body, the engagement portion constructed and arranged to be engaged and rotated so as to remotely rotate the locking portion between the locked and unlocked positions.

15. (Original) The tie rod assembly as in claim 14, and further comprising:
 - a first connecting component for engagement with the first end threaded bore of the tie rod, the first jam nut engaging the first connecting component and the first end jam nut engaging portion;
 - a second connecting component for engagement with the second end threaded bore of the tie rod; and
 - a second jam nut for engaging the second connecting component and the second end jam nut engaging portion.
16. (Original) The tie rod assembly as in claim 15, wherein at least one of the first and second connecting components is a heim joint.
17. (Original) The tie rod assembly as in claim 15, wherein at least one of the first and second connecting components is a tie rod end.
18. (Original) The tie rod assembly as in claim 14, wherein the engagement portion is positioned at the second end of the tubular body.
19. (Original) The tie rod assembly as in claim 15, wherein the engagement portion is positioned proximal the second jam nut.
20. (Original) The tie rod assembly as in claim 14, wherein the engagement portion is hexagonally shaped for engagement with a wrench.

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21. (Original) The tie rod assembly as in claim 14, wherein the face portion of the locking portion lies in a plane perpendicular to an axis of the elongated tubular body.
22. (Original) The tie rod assembly as in claim 14, wherein the engagement portion is spaced away from the locking portion of the tubular body by at least 50% of a length of the tie rod.
23. (Original) The tie rod assembly as in claim 22, wherein the engagement portion is spaced away from the locking portion of the tubular body by at least 70% of the length of the tie rod.
24. (Original) The tie rod assembly as in claim 23, wherein the engagement portion is spaced away from the locking portion of the tubular body by between 70% and 95% of the length of the tie rod.
25. (Original) The tie rod assembly as in claim 14, wherein the tubular body, the locking portion and the engagement portion are assembled together as a unitary assembly.
26. (Original) The tie rod assembly as in claim 14, wherein the tubular body, the locking portion and the engagement portion are constructed in a unitary manner.
27. (Original) The tie rod assembly as in claim 14, wherein the tie rod includes a graduated scale on its exterior surface and the tie rod jam nut includes markings for comparison to the graduated scale.
28. (Original) The tie rod assembly as in claim 14, wherein the tie rod jam nut includes a seal for engaging between the second end of the tubular body and the tie rod.